

Occurrence of *Platycerus hongwonpyoi* (Coleoptera, Lucanidae)
on Mt. Tianmu Shan of Zhejiang Province, East China

Yûki IMURA

Shinohara-chô 1249–8, Kôhoku-ku, Yokohama, 222–0026 Japan

and

WAN Xia

Institute of Zoology, Chinese Academy of Sciences, 25, Beisihuan Xilu,
Haidian Qu, 100080 Beijing, China

Abstract A new subspecies of *Platycerus hongwonpyoi* is described from Mt. Tianmu Shan of northern Zhejiang, East China, under the name *P. h. tianmushanus*.

Platycerus hongwonpyoi IMURA et CHOE (1989, p. 20) is one of the representative species of platycerine lucanid beetles occurring in East Asia, which is rather widely but sporadically distributed from the Korean Peninsula to Central China. The nominotypical subspecies was described from the Chiri-san Mountains lying in the southernmost part of the Korean Peninsula and is rather widely distributed in South Korea (WATANABE, 1989; IMURA, 1993). The population distributed from North Korea to northeastern China is represented by subsp. *merkli* (IMURA & CHOE, 1989, p. 21; LI, 1997, p. 43; IMURA, 2006 b, p. 24). The species is also known from the central and northern parts of China and the population distributed in those area is classified into four subspecies. Thus, totally six subspecies have been described up to the present as listed below:

- 1) Subsp. *hongwonpyoi* IMURA et CHOE (1989, p. 20; type locality: Mt. Chiri-san, Kyongsangnam-do, Korea; see also IMURA, 1993 & 2006 b)
- 2) Subsp. *merkli* IMURA et CHOE (1989, p. 21; type locality: Mt. Kumgang-san — Mt. Manmul-san, Kangwon-do, Korea; see also IMURA, 1993 & 2006 b)
- 3) Subsp. *qinlingensis* IMURA (1993, p. 12; type locality: Qinling Mountains of southern Shaanxi; see also IMURA, 1994 & 2006 a, b).
- 4) Subsp. *dabashanensis* OKUDA (1997, p. 12; type locality: Daba Shan Mountains on the borders between Chongqing Shi and Shaanxi; see also IMURA, 2006 b).
- 5) Subsp. *funiuensis* IMURA (2005, p. 498; type locality: Fu'niu Shan Mountains of western Henan; see also IMURA, 2006 b)

6) Subsp. *mongolicus* IMURA et BARTOLOZZI (2006, p. 136; type locality: Daqing Shan Mountains of Nei Mongol Zizhiqu, North China; see also IMURA, 2006 b).

Recently, we had an opportunity to examine two old lucanid specimens belonging to the genus *Platycerus* preserved in the collection of the Institute of Zoology, CAS (Chinese Academy of Sciences) in Beijing. One of the two, a male collected nearly 60 years ago from Mt. Tianmu Shan of northern Zhejiang in East China, is specifically identical with *P. hongwonpyoi*, though different in details from all the known local races of the same species. It will therefore be recorded and described in this paper as a new and seventh subspecies under the name of *tianmushanus* nov. As to the other specimen, a female obtained from Mt. Emei Shan of Central Sichuan, we are going to record or describe it in another paper to be prepared in the near future, since it does not belong to *P. hongwonpyoi* but is apparently referable to another species belonging to the group of *P. delicatus*.

Before going further, we wish to express our deep appreciation to Dr. Luca BARTOLOZZI of Museo di Storia Naturale della Università di Firenze, Sezione di Zoologia "La Specola," without whose kind consideration we have never had an opportunity to make such a cooperative study. Thanks are also due to Dr. Shun-Ichi UÉNO (National Science Museum, Tokyo) for reading the manuscript of this paper.

Platycerus hongwonpyoi tianmushanus IMURA et WAN, subsp. nov.

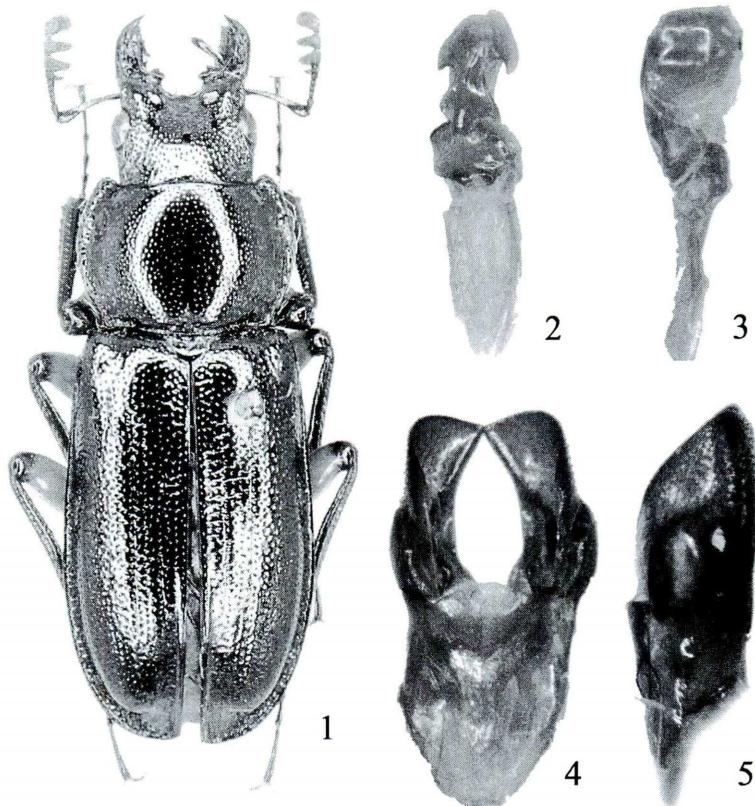
(Figs. 1-5, 7)

Length (including mandibles): ♂, 10.8 mm.

M a l e. Morphologically, this new subspecies seems to be most closely allied to subsp. *dabashanensis*, but differs from that race in the following respects: 1) coloration different, that of dorsal surface less strongly yellowish but dark greenish bearing a faint bluish tinge, and sternite VII and lateral portions of sternites VI-IV a little lighter; 2) pronotum less transverse, 1.58 times as wide as long in the holotype specimen, with the lateral sides less acutely narrowed towards apex, and discal punctures a little smaller in size; 3) elytra a little robuster, 1.47 times as long as wide in the holotype specimen, with the disc more sparsely and weakly punctate, and the central portion less coarsely and more weakly rugulose; 4) aedeagus with a visor-like protuberance on the right side more strongly bent inwards.

From subsp. *qinlingensis* and *funiuensis*, the new subspecies is discriminated as follows: 1) coloration of dorsal surface a little more bluish; 2) abdominal sternites darker than in *qinlingensis*, though almost similar in coloration to that of *funiuensis*; 3) mandibles longer, with the outer margins less roundly arcuate and more acutely hooked inwards near apices; 4) pronotum with front angles less sharply pointed at the tips, lateral sides less strongly convergent towards apex, and discal punctures apparently smaller in size; 5) central portion of elytra much less coarsely rugulose; 6) aedeagus with a visor-like protuberance on the right side more strongly bent inwards.

The new race differs from the nominotypical subspecies and subsp. *merkli* in the



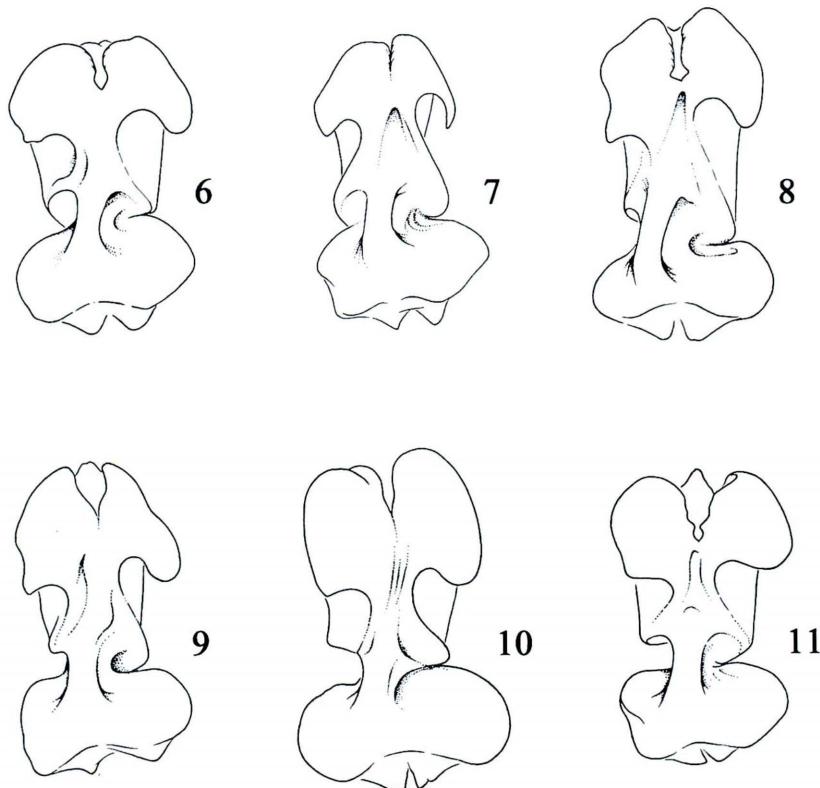
Figs. 1-5. *Platycerus hongwonpyoi tianmushanus* subsp. nov. (holotype, ♂) from Mt. Tianmu Shan of northern Zhejiang in East China. — 1, Habitus in dorsal view; 2, aedeagus in ventral view; 3, ditto in right lateral view; 4, paramere (=lateral lobe) in ventral view; 5, ditto in right lateral view.

following characteristics: 1) coloration of dorsal surface more strongly yellow-greenish; 2) mandibles longer and less acutely hooked inwards near apices; 3) pronotal disc more strongly convex above; 4) central part of elytra less coarsely rugulose; 5) aedeagus with a visor-like protuberance on the right side more strongly bent inwards.

From subsp. *mongolicus*, this new subspecies is readily distinguishable by much less strongly bluish dorsal surface, lighter coloration of sternite VII, much darker coloration of protibia, differently shaped mandibles and elytra and much less coarsely rugulose central portion of elytra, as well as larger and more strongly bent visor-like protuberances on both sides of aedeagus.

Female unknown.

Holotype: ♂, “Tienmu [=Tianmu] Shan/May 4 1937 // 浙江省天目山 [Zhejiang Sheng Tianmu Shan] / 1937. V. 4 / 中国科学院 [Zhongguo Kexueyuan = Chinese Acad-



Figs. 6–11. Aedeagus in ventral view of *Platycerus hongwonpyoi* subsp. — 6, Subsp. *hongwonpyoi* (Chiri-san Mts., S. Korea); 7, subsp. *tianmushanus* nov. (Mt. Tianmu Shan, N. Zhejiang, E. China); 8, subsp. *dabashanensis* (Daba Shan Mts., N. Chongqing Shi, C. China); 9, subsp. *qinlingensis* (Qiling Mts., S. Shaanxi, C. China), 10, subsp. *funiuensis* (Fu'niu Shan Mts., W. Henan, C. China); 11, subsp. *mongolicus* (Daqing Shan Mts., Nei Mongol Zizhiqu, N. China).

emy of Sciences] // Lucanidae," preserved in the collection of the Institute of Zoology, CAS in Beijing, China.

Notes. True affinity of subsp. *tianmushanus* in all the known races of *Platycerus hongwonpyoi* is not certain at the present moment, but it is worth noting that such an isolated population of the same species occurs at the eastern end of the Chinese Continent near the East China Sea, and the discovery of the present new subspecies poses an interesting problem to the relationship between the geohistorical background and process of dispersal of the *Platycerus* species in East Asia.

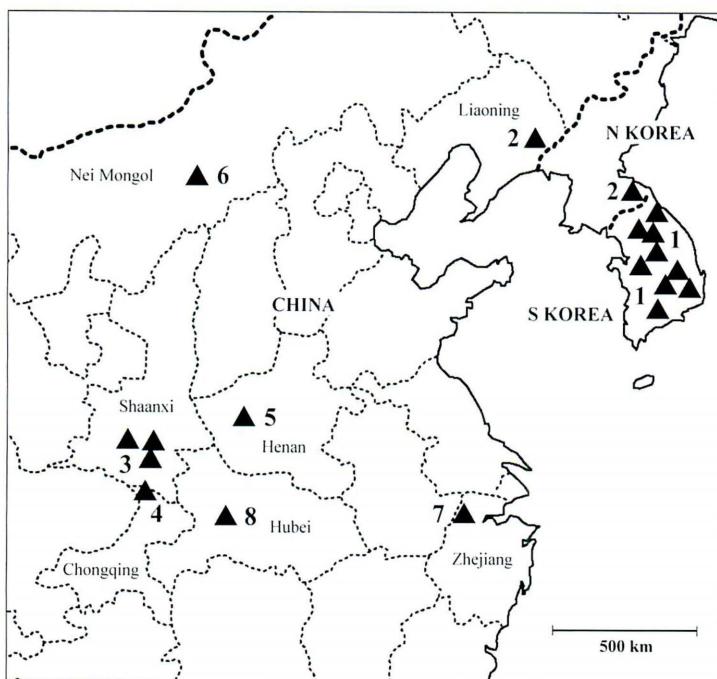


Fig. 12. Map showing the distribution of *Platycerus hongwonpyoi* in East Asia. — 1, Subsp. *hongwonpyoi*; 2, subsp. *merkli*; 3, subsp. *qinlingensis*; 4, subsp. *dabashanensis*; 5, subsp. *funiuensis*; 6, subsp. *mongolicus*; 7, subsp. *tianmushanus*; 8, subsp. ? (Mt. Dalao Shan in W. Hubei, collecting site of a female not yet identified subspecifically (IMURA, 2004).)

要 約

井村有希・万 霞：中国浙江省天目山から発見されたチョウセンコルリクワガタ。——北京の中国科学院に保管されている中国浙江省天目山産の古いルリクワガタ標本を検した結果、種としてはチョウセンコルリクワガタに属するものと考えられたが、既知の諸亜種とは形態的に異なっていたため、*tianmushanus* という新亜種名を与えて記載した。本種は朝鮮半島南部から記載され、近年になって中国北東部、北部、中部に断続的ながら広範な分布圏をもつことが徐々に判明してきたが、中国東部の東海（東シナ海）沿岸に近いこのような場所にも分布していたことはたいへん興味深く、動物地理学的にみてもきわめて重要な発見であるといえよう。

References

IMURA, Y., 1993. On the genus *Platycerus* (Coleoptera, Lucanidae) of China and Korea — Discovery of a new subspecies of *Platycerus hongwonpyoi* from the Qinling Mountains in Shaanxi Province, Central China —. *Gekkan-Mushi*, Tokyo, (272): 10-13. (In Japanese, with English title, description and summary.)

——— 1994. The female of *Platycerus hongwonpyoi qinlingensis* (Coleoptera, Lucanidae). *Ibid.*, (278): 10.

(In Japanese, with English title and summary.)

IMURA, Y., 2004. Record of *Platycerus hongwonpyoi* (Coleoptera, Lucanidae) from the Dalao Shan in western Hubei, Central China. *Elytra, Tokyo*, **32**: 247–248.

——— 2005. Records of *Platycerus* (Coleoptera, Lucanidae) from Henan Province, Central China. *Ibid.*, **33**: 497–500.

——— 2006 a. The male of *Platycerus businskyi* (Coleoptera, Lucanidae), with additional records of two other congeners from the Qinling Mountains of Central China. *Ibid.*, **34**: 127–134.

——— 2006 b. The genus *Platycerus* (Coleoptera, Lucanidae) of China. *Gekkan- Mushi, Tokyo*, (426): 23–32. (In Japanese, with English title.)

——— & R. BARTOLOZZI, 2005. A new subspecies of *Platycerus hongwonpyoi* (Coleoptera, Lucanidae) from Nei Mongol Zizhiqu of North China. *Elytra, Tokyo*, **34**: 135–137.

——— & K.-R. CHOE, 1989. A new species and its new subspecies of the genus *Platycerus* from Korea (Coleoptera, Lucanidae). *Kor. J. Ent.*, **19**: 19–24.

LI, J.-K., 1997. *Platycerus hongwonpyoi* attracted to pitfall traps for carabid beetles. *Gekkan-Mushi, Tokyo*, (321): 43. (In Japanese.)

OKUDA, N., 1997. Descriptions of one new species and one new subspecies of the genus *Platycerus* (Coleoptera, Lucanidae) from Mt. Dabashan in northeastern Sichuan Province, Central China. *Gekkan- Mushi, Tokyo*, (313): 9–12. (In Japanese, with English title and description.)

WATANABE, T., 1989. The *Platycerus* sp. of Korea. *Nat. & Ins., Tokyo*, **24**(8): 29–32. (In Japanese, with English title.)